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THREE NEW PHLEOTHRIPIDÆ (THYSANOPTERA)  
FROM TEXAS AND MICHIGAN.

BY J. DOUGLAS HOOD,  
Illinois State Laboratory of Natural History, Urbana.

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The three species described below are large, striking, and conspicuous. All are distinguishable at a glance from their known North American relatives. It is perhaps to be regretted that two are represented by unique males, one of which is macropterous and the other brachypterous; but, after nearly four years, they are here described that the genus which they represent may be placed on record as a member of the fauna of the United States.

***Phleothrips vittatus* sp. nov.**

*Female*.—Unknown.

*Male*.—Length about 2.2 mm. Dorsal surface closely reticulate, non-shining; ventral surface smooth. General color by reflected light, dark mahogany brown, with a narrow, latero-dorsal, white stripe extending along the sides of the prothorax and abdomen and terminating on the seventh abdominal segment; this stripe is about as wide as the antenna, and is interrupted only on the pterothorax, where it is entirely wanting. General color by transmitted light, yellowish brown, with maroon hypodermal pigmentation; legs and tube blackish brown, non-pigmented; antennæ nearly concolorous with body and with the intermediate segments yellowish at base and apex.

Head about 1.2 times as long as wide; dorsal and lateral surfaces closely and strongly reticulate and with several moderately prominent spiniferous tubercles, of which those on the cheeks and four near center of dorsum\* are especially noticeable; cheeks subparallel, converging rather abruptly to the eyes; postocular bristles lacking. Eyes moderately large, finely faceted, contained in length of head about two and one half times, and slightly narrower than their interval. Ocelli subapproximate, opposite center of eyes. Antennæ five-thirds as long as head; segments 3-5

\* It is possible that the anterior pair are the postocular bristles.

clavate, abruptly narrower apically, urn- or vase-shaped; 6 and 7 clavate; 8 sharply conical; sense cones large, moderately slender; formula\*: 3, 1-2; 4, 1-2+<sup>1</sup>; 5, 1-1+<sup>1</sup>; 6, 1-1+<sup>1</sup>; 7, with one on dorsum near apex; segments 1 and 2 nearly concolorous with body; 3-5 blackish brown, paler at apex and with their basal two-fifths brownish yellow; 6-8 dark blackish brown, 6 with pale pedicel. Mouth cone pointed, nearly attaining base of prosternum.

Prothorax three-fourths as long as head, and (including coxæ) about 1.8 times as wide as long; all usual spines present, dilated apically, the outer pair at the posterior angles longest, twice as long as the coxal and the pair at the anterior angles. Pterothorax slightly wider than long and broader than prothorax; sides nearly straight, slightly converging posteriorly. Wings long, nearly attaining tube, not narrowed at middle, closely fringed, veinless; subapical fringe on posterior margin of first pair double for about twenty hairs. Legs normal; fore femora not swollen, about half as wide as head; fore tarsi armed with a short tooth.

Abdomen moderately slender; segment 9 long, about equal to the tube in length, nearly circular as seen from above. Tube about five-sixths as long as head, tapering evenly from base to apex; terminal bristles nearly as long as tube. Marginal abdominal bristles short, capitate, colorless.

*Measurements*.—Length, 2.18 mm.; head: length, .30 mm.; width, .25 mm.; prothorax: length, .23 mm.; width (including coxæ), .41 mm.; pterothorax: width, .44 mm.; abdomen: width, .45 mm.; tube: length, .23 mm.; width at base, .09 mm.; at apex, .045 mm. Antennæ: Segment 1, 39 $\mu$ ; 2, 57 $\mu$ ; 3, 99 $\mu$ ; 4, 87 $\mu$ ; 5, 81 $\mu$ ; 6, 57 $\mu$ ; 7, 54 $\mu$ ; 8, 33 $\mu$ ; total, .507 mm.; width, 41 $\mu$ .

Described from two macropterous males taken by the writer on poplar near Baldwin, Michigan, August 17, 1908.

The peculiar coloration of this insect distinguishes it at once from all other species of its genus. Its resemblance, however, both in coloration and structure, to the species of *Acanthothrips* is striking. The principal characters of that genus, as at present understood, are the presence in both sexes of a subapical tooth on the inner margin of the fore femora and the urn- or vase-like form of the intermediate antennal segments. But *Phlæothrips vittatus*, though lacking the femoral tooth of *Acanthothrips*, possesses an antenna strikingly similar to that of *A. nodicornis* Reuter, and in coloration is strongly suggestive of *A. albivittatus* m.

#### **Diceratothrips harti** sp. nov.

*Female*.—Unknown.

*Male* (macropterous).—Length about 2.4 mm. Color uniform black. Surface shining.

Head subrectangular, 1.7 times as long as wide, truncate in front; cheeks parallel, excepting for an abrupt, collar-like, basal widening about half as long as eye; dorsal and lateral surfaces faintly transversely striate;

\* The explanation of the formula used in the description of the antennal sense cones has been given by the author in *Ann. Ent. Soc. Am.*, Vol. 1, No. 4, p. 285, and in *Ent. News*, Vol. XX, No. 1, p. 29, footnote.

cheeks with two rather stout spines at basal and apical thirds, respectively; middle of dorsum with a pair of small slender spines; two pairs of small interocular spines, one just behind the posterior ocelli, the other near anterior angle of eyes and pointing directly forward; post-

ocular bristles pointed, about as long as eyes. Eyes small, not protruding. Ocelli moderately large, their diameter about twice as great as that of facets of eyes; posterior ones widely separated, contiguous to margins of eyes; anterior ocellus situated on extreme vertex, slightly overhanging and pointing directly forward. Antennae inserted beneath vertex, slightly more than twice as long as head; segments 3-5 claviform, elongate, 3 slightly more than four times as long as its greatest subapical width; 6 and 7 oblong, pedicellate; 8 subconical; sense cones short, acute. Mouth cone broadly

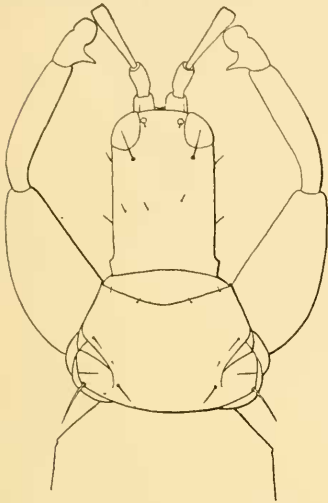


Fig. 1.  
*Diceratothrips hartli* sp. nov.,  
male, holotype.  
(J. D. H. del.)

rounded at apex, reaching beyond middle of prosternum.

Prothorax nearly .7 as long as head, and (including coxæ) somewhat less than twice as wide as long, surface nearly smooth; anterior angles acute, scarcely prolonged; posterior angles with three sclerites, the posterior two of which are somewhat fused with each other and with the notum; usual spines all present, the two pairs at the posterior angles much the longest, about as long as the postoculars, the others scarcely visible and shorter than those on cheeks; fore coxæ armed with a single short spine. Pterothorax slightly wider than prothorax, sides slightly arcuate. Wings long, closely fringed. Legs moderately long, without prominent spines; fore femora about as long as head and twice as

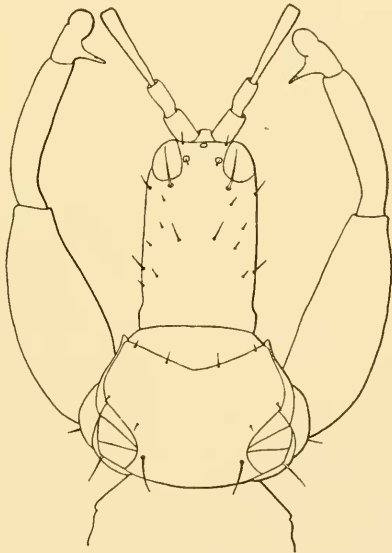


Fig. 2.  
*Diceratothrips longipes* sp. nov., male,  
holotype. (J. D. H. del.)

long as wide; fore tarsi armed with a long, slender tooth about half as long as eye.

Abdomen slender, but distinctly wider than prothorax; sides subparallel to sixth segment, thence tapering to base of tube; tube slightly longer than head, expanded in basal sixth, thence tapering very gradually to near apex, which is rather abruptly narrowed; terminal bristles weak. Abdominal bristles pointed, long and strong, those on segment 9 nearly as long as tube.

*Measurements*.—Length, 2.36 mm.; head: length, .34 mm.; width, .22 mm.; prothorax: length, .23 mm.; width (including coxæ), .42 mm.; pterothorax: width, .45 mm.; abdomen: width, .47 mm.; tube: length, .36 mm.; width at base, .105 mm.; at apex, .048 mm. Antennæ: seg-1, 69 $\mu$ ; 2, 72 $\mu$ ; 3, 153 $\mu$ ; 4, 126 $\mu$ ; 5, 102 $\mu$ ; 6, 78 $\mu$ ; 7, 66 $\mu$ ; 8, 47 $\mu$ ; total, .71 mm.; width, .036 mm.

Described from one long-winged male taken in sweepings from grass in the South Texas Garden, Brownsville, Texas, June 27, 1908, by Mr. Charles A. Hart, for whom the species is named.

#### **Diceratothrips longipes** sp. nov.

*Female*.—Unknown.

*Male* (brachypterous).—Length about 2.3 mm. Color uniform black; surface shining.

Head subrectangular, 1.7 times as long as wide, truncate in front; cheeks subparallel except for an abrupt collar-like basal widening about .04 mm. in length; dorsal and lateral surfaces faintly transversely striate, set with a few short, rather stout spines which are not raised on tubercles and of which there is a longer and stronger pair near middle of dorsum and two pairs on the lateral outline at the basal and apical thirds, respectively; two pairs of small interocular spines, one

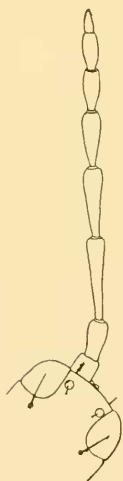


Fig. 3.  
*Diceratothrips harti*  
sp. nov., male, holotype.  
(J. D. H. del.)

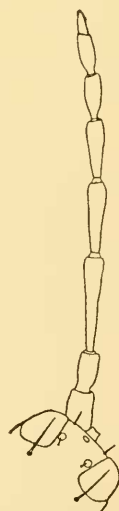


Fig. 4.  
*Diceratothrips longipes*  
sp. nov., male, holotype.  
(J. D. H. del.)

just behind the posterior ocelli and the other near anterior angle of eyes; postocular bristles pointed, about as long as eyes. Eyes small, not protruding. Ocelli moderately large, their diameter about twice as great

as that of facets of eyes; posterior ones widely separated, nearly contiguous to margins of eyes; anterior ocellus situated on vertex and directed forward and upward. Antennae slightly less than twice as long as head, not inserted beneath vertex; segments 3-5 clavaform, elongate, 3 nearly five times as long as greatest subapical width; 6 and 7 oblong, pedicellate; 8 subconical; sense cones short, acute. Mouth cone broadly rounded at apex and reaching beyond middle of prosternum.

Prothorax about .6 as long as head and (including coxæ) almost twice as wide as long, surface nearly smooth; anterior angles produced into a strong, short, tooth-like projection about .17 mm. in length; posterior angles with three distinct sclerites; usual spines all present, the two pairs at the posterior angles much the longest, about as long as the postoculars, the others about as long as those on cheeks; fore coxæ armed with a single rather short spine. Pterothorax slightly narrower than prothorax, sides subparallel. Wings reduced, .7 as long as head, slightly less than five times as long as wide. Legs very long; spines short, slender, inconspicuous; fore femora very large, longer than and .7 as wide as head, and about three times as long as wide; fore tarsi armed with a long, slender, straight tooth nearly as long as eye.

Abdomen slender, slightly narrower than prothorax; sides subparallel to sixth segment, thence tapering to base of tube; tube slightly shorter than head, expanded in basal sixth and narrowed at apex, intermediate portion parallel-sided; terminal bristles weak, two-fifths as long as tube. Abdominal bristles pointed, long and strong, those on segment 9 nearly as long as tube.

*Measurements*.—Length, 2.27 mm.; head: length, .40 mm.; width, .24 mm.; prothorax: length, .25 mm.; width (including coxæ), .47 mm.; pterothorax: width, .42 mm.; abdomen: width, .45 mm.; tube: length, .37 mm.; width at base, .102 mm.; at apex, .048 mm. Antennae: segment 1, 69 $\mu$ ; 2, 72 $\mu$ ; 3, 174 $\mu$ ; 4, 129 $\mu$ ; 5, 108 $\mu$ ; 6, 78 $\mu$ ; 7, 72 $\mu$ ; 8, 42 $\mu$ ; total, .74 mm.; width, .036 mm.

Described from one short-winged male taken on huisache (*Acacia farnesiana* Willd.), in the South Texas Garden, Brownsville, Texas, June 27, 1908, by Mr. Charles A. Hart.